

# Expanding the Consumer Base for Behavior-Analytic Services: Meeting the Needs of Consumers in the 21st Century

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## ABSTRACT

A growing workforce of behavior analysts provides services to individuals with autism and intellectual disabilities as legislative initiatives have spurred a growth of funding options to support these services. Though many opportunities currently exist for serving individuals with autism, the growing demand for these services may wane or, at some point, the growth in service providers will meet that demand. Other consumer groups could benefit from behavior analytic services, but typically have limited access to qualified providers. Individuals with dementia and traumatic brain injury are used as example consumer groups to illustrate the necessary tasks for a behavior analyst to expand their scope of practice to a new population. This paper provides strategies for developing competence and creating employment opportunities with new consumer groups.

*Keywords:* aging, behavior analysis, brain injury, consumers, dementia, funding, practitioner, retraining



The 21st century is a great time to be a practicing behavior analyst with practice issues currently dominating many professional conversations in the field (Friman, 2010a). Although the Behavior Analyst Certification Board® (BACB) only began credentialing behavior analysts at a national level in 2000, the number of Board Certified Behavior Analysts (BCBAs) has increased at a dramatic rate and now exceeds 10,000 (Carr, 2011). In addition, the newest behavior-analytic professional organization, the Association for Professional Behavior Analysts (APBA), was created with the exclusive mission of meeting the needs of professionals who provide behavior-analytic services to various consumers (<http://www.apbahome.net/>). These credentialed practicing behavior analysts are in high demand and are having success in employment. For example, on February 2, 2012 there were 488 available jobs posted on the Job Career Center of the Association for Behavior Analysis International (ABAI) website located in 36 of the 50 United States and 3 other countries (<http://www.abainternational.org/>).

A recent APBA survey found that practicing BCBAs and Board Certified assistant Behavior Analysts (BCaBAs) are well-compensated for their services, are generally new to the field (i.e., less than 5 years of experience), and are mostly working in the areas of autism and intellectual disabilities service provision (Johnston, 2009). The ABAI conventions and conferences also reflect the relevance of autism in the growth of behavior analysis as the autism program area received 29% of all submissions to the 2010 annual convention (Malott, 2010) and ABAI now holds an annual autism conference (<http://www.abainternational.org/events.asp>).

At least two factors account for the dramatic growth in services for individuals with autism. First, behaviorally-based treatments have proven quite effective for individuals with autism. Several meta-analyses document that early and intensive behavioral services delivered over the span of two to three years produce substantial gains in intellectual and adaptive functioning for many children with autism (Eldevik et al.,

2009; Reichow & Woolery, 2009). Second, advocacy efforts have resulted in health insurance reform laws to fund services for persons with autism. The Indiana legislature passed the first autism insurance law in 2001, which was followed in 2007 by South Carolina's highly publicized Ryan's Law (S.C. Code Ann., 2008). As of February 2012, 29 states had enacted autism insurance reform laws that specifically included applied behavior analysis as a covered service (<http://www.autismvotes.org/>). However, funding streams change due to economic factors, legislative initiatives, and shifts in population demographics. For example, a recent West Virginia emergency rule initiated by the state psychology board resulted in a sudden interruption in the right for behavior analysts to practice and a corresponding interruption in consumer's access to services (UPDATE, 2011). Though a subsequent withdrawal of the emergency rule allowed resumption of practice, other actions could prove equally or more permanently disruptive to the right to practice. A forward-thinking behavior

analyst could enhance his or her viability in future markets by diversifying their consumer base to enable responsiveness to dynamic marketplace contingencies.

Along with financial stability, behavior analysts might accrue other personal and professional benefits across the span of their career by diversifying their consumer base. Diversification could allow greater flexibility if circumstances made it necessary to live in an area without a sufficient population base for a full practice restricted only to autism or intellectual disabilities services. For example, a spousal job change or the need to support an aging parent might result in relocation to an area that does not have a funding mechanism for autism services. Alternatively, the demands associated with starting a family and raising young children might preclude full-time employment consulting for in-home services, which often requires travel across a wide geographic area. Finally, expanding into a new area might provide intellectual stimulation that is rejuvenating for mid-career providers who desire a change and welcome new challenges.

Diversification in consumer base could also produce important social impact for underserved populations. At least two rapidly growing demographics with service needs, the elderly and persons with traumatic brain injury, are drastically underserved by BCBAAs (Johnston, 2009). According to the U.S. Census Bureau (2010), 40 million Americans are 65 or older. By the year 2030, one-fifth of the U.S. population will be over 65. Any aging-related issues existing today (e.g., insufficient caregiver workforce, shortages of geriatric specialists) will be exacerbated by the advancing age of the U.S. population creating a need to improve and increase services (Olshansky, Goldman, Zheng, & Rowe, 2009). Similarly, 1.4 million Americans sustain a traumatic brain injury (TBI) each year and over half of these individuals experience permanent disability (Langlois, Rutland-Brown, & Thomas, 2006). Researchers estimate that 20% of the 1.6 million service people deployed in Operations Enduring Freedom and Iraqi Freedom will return as a veteran with a TBI (Tanielian & Jaycox, 2008) and will be underserved (Langlois et al.). Currently, professionals from other disciplines (e.g., occupational therapy, speech language pathology, nursing, psychiatry) serve these individuals where services are available.

A behavior analyst interested in serving one of these populations would have an existing literature base to guide the delivery of services (Adkins & Mathews, 1999; Cattellini, Zettin, & Zoccolotti, 2010; LeBlanc, Raetz, & Feliciano, 2011; Slifer & Amari, 2009). The same behavioral principles and procedures used in practice with individuals with autism and intellectual disabilities (e.g., skill acquisition procedures, functional assessment) have proven effective and valuable with individuals with dementia and TBI. For example, stimulus equivalence technology has been used to reteach name-face matching skills to adults with TBI (Cowley, Green, & Braunling-McMorrow, 1992; Sidman, 1994) and personally relevant pictorial stimuli have been used to reestablish dyadic conversation skills in dementia care settings (Bourgeois, 1990; Bourgeois & Mason, 1996). Functional analyses have been conducted for individuals with

dementia and effective function-based treatments have been developed for various topographies of problem behavior such as disruptive vocalizations (Buchanan & Fisher, 2002), aggression (Baker, Hanley, & Mathews, 2006; Dwyer-Moore & Dixon, 2007), and hoarding (Baker, LeBlanc, Raetz, & Hilton, 2011). Similar analyses and interventions have been developed for inappropriate sexual behavior (e.g., Fyffe, Kahng, Fittro, & Russell, 2004), aggression, property destruction (e.g., Dolezal & Kurtz, 2010), and delusional statements (Travis & Sturme, 2010) in individuals with TBI. Thus, well-trained practitioners working in autism and intellectual disabilities already have many of the skills needed to effectively serve other populations.

Behavior analysts who opt to expand their consumer base to new populations will need to undertake some important tasks to foster competent and successful service delivery. This paper identifies relevant professional development tasks for entering into a new sub-specialty in behavior analysis and provides strategies for completing those tasks. Each strategy is described and illustrative examples are provided using the areas of TBI and aging services. The tables and text summarize each task and strategy and are organized into two overarching tasks: (a) development of professional competence with the new population, and (b) identification and management of employment opportunities.

### Task I: Increase Professional Competence with a New Population

At least three of the BACB® Guidelines for Professional Conduct (<http://www.bacb.com/index.php?page=57>) are directly pertinent to the transition to serving a new consumer group (see Table 1 for the complete text of the relevant guidelines). First, area **1.02 (Competence)** tasks the behavior analyst to only provide services within the boundaries of their competence based on their professional history and training. Additional training and consultation and study of any new pertinent literature should occur prior to contracting to serve new consumers. Second, area **1.03 (Professional Development)** specifies that behavior analysts should remain aware of the current information in their field through activities such as reading the literature and attending professional meetings and workshops. This conduct guideline refers to a necessary awareness of the information from the field pertinent to a new consumer group in addition to the basics of behavior analysis. Third, area **2.02 (Accepting Clients)** indicates that a behavior analyst should only accept clients when they are qualified to serve them (i.e., education, training, experience) or are supervised or in consultation with a behavior analyst with the appropriate credentials and training.

While the principles of behavior analysis are universally applicable, knowledge about population specific needs and characteristics might lead a behavior analyst to examine or program person-environment interactions differently. For example, individuals who have suffered a TBI often have diffuse residual pain and sensory impairments (e.g., light sensitivity, auditory sensitivity; Stewart & Alderman, 2010) that may

Table 1. BACB® Guidelines for Professional Conduct Pertinent to Expanding Your Consumer Base

## 1.0 Responsible Conduct of a Behavior Analyst.

### 1.02 Competence.

(a) Behavior analysts provide services, teach, and conduct research only within the boundaries of their competence, based on their education, training, supervised experience, or appropriate professional experience.

(b) Behavior analysts provide services, teach, or conduct research in new areas or involving new techniques only after first undertaking appropriate study, training, supervision, and/or consultation from persons who are competent in those areas or techniques.

### 1.03 Professional Development.

Behavior analysts who engage in assessment, therapy, teaching, research, organizational consulting, or other professional activities maintain a reasonable level of awareness of current scientific and professional information in their fields of activity, and undertake ongoing efforts to maintain competence in the skills they use by reading the appropriate literature, attending conferences and conventions, participating in workshops, and/or obtaining Behavior Analyst Certification Board certification.

## 2.0 The Behavior Analyst's Responsibility to Clients.

### 2.02 Accepting Clients.

The behavior analyst accepts as clients only those individuals or entities (agencies, firms, etc.) whose behavior problems or requested service are commensurate with the behavior analyst's education, training, and experience. In lieu of these conditions, the behavior analyst must function under the supervision of or in consultation with a behavior analyst whose credentials permit working with such behavior problems or services.

increase the likelihood of negatively reinforced problem behavior (e.g., certain tones are aversive thus loud environments may foster the development of escape-maintained problem behavior; Pace, 2011). A behavior analyst who knows about the increased likelihood of such functions might design a modified descriptive assessment or functional analysis prior to treating the problem behavior of these consumers. As another example of population-specific findings, paired stimulus preference assessments have been effectively used with individuals with dementia but with different findings about the usefulness of different stimulus modalities (LeBlanc, Cherup, Feliciano & Sidener, 2006; LeBlanc, Raetz, Baker, Strobel, & Feeney, 2008). With consumers with intellectual disabilities and autism, assessments using tangible stimuli produce the most accurate predictions of subsequent reinforcement effects (Conyers et al., 2002; Higbee, Carr, & Harrison, 2002). However, LeBlanc et al. (2006) found that an assessment with stimuli presented vocally better predicted subsequent engagement than a tangible format for 2 of the 3 participants with dementia.

**Contact the literature.** Behavior analysts should contact the existing literature for any new target population as a first strategy to increase competence. In addition to the specific sources and strategies described here, Carr and Briggs (2010)

provide excellent recommendations for accessing any scholarly literature. First, the *Journal of Applied Behavior Analysis (JABA)* search engine on the *JABA* website allows users to conduct full-text searches of abstracts (<http://seab.envmed.rochester.edu/jaba/>) using key terms such as dementia, brain injury, gerontology and aging. Second, a search of a general database search engine (e.g., PsycINFO, ERIC EBSCO Host, PubMed, Google scholar™) using key words specific to your target group (e.g., “aging,” “brain injury,” “dementia,” “gerontology,” “head injury”) in conjunction with terms pertinent to behavior analysis (e.g., “behavioral treatment,” “preference assessment,” “functional assessment”) will capture papers in other behavioral journals that do not have a site specific search engine. Third, special issues of behavioral journals and handbooks of behavior analysis often include great resources for specific populations. For example, *Behavioral Interventions* published special issues on brain injury in 2000 (Mozzoni, 2000) and 2005 (Mozzoni, 2005), and *Behavior Therapy* published a recent special issue on geriatric behavior therapy (Houlihan & Buchanan, 2011). As another example, the *Handbook of Applied Behavior Analysis* (Austin & Carr, 2000) offers a chapter summarizing the contributions of behavior analytic techniques in brain injury rehabilitation (Jacobs, 2000) while LeBlanc et al. (2011)

provide a chapter on behavioral gerontology in the *Handbook of Applied Behavior Analysis* (Fisher, Piazza, & Roane, 2011). Fourth, at least one behavioral practice organization (e.g., APBA) provides literature review resources for their members. Members of APBA can access bibliographies that provide references on special topics including behavioral gerontology (Baker & LeBlanc, 2010) from the organization's website.

As a next step in contacting the literature, behavior analysts should search beyond behavioral outlets for handbooks, journals, and manuals that provide general knowledge (e.g., epidemiology, etiology, common characteristics) specific to the target population (Bailey & Burch, 2010). Many of these resources exist on national organization websites. For example, *The Essential Brain Injury Guide* provides a resource for preparation for the brain injury specialist certification (Lash, 2007) and can be purchased on the website of the Brain Injury Association of America (BIAA; <http://www.biausa.org/>). The BIAA and the American Academy for the Certification of Brain Injury Specialists (AACBIS) created this guide as a collaborative effort to expand the qualified workforce. In addition, the American Psychological Association (APA; <http://www.apa.org>) recently published a general resource on aging, *Treating Dementia in Context: A Step-By-Step Guide to Working With Individuals and Families*. A behavior analyst co-authored this text, which provides an overview of dementia care for multiple health care professionals (McCurry & Drossel, 2011). Finally, practice journals for the new consumer group (e.g., *Journal of Head Trauma Rehabilitation* and *Brain Injury* in the area of brain injury; *Journal of Gerontology: Series B Psychological Sciences*; and *American Journal of Alzheimer's Disease and Other Dementias* in the area of aging) can help to ensure overall familiarity with the literature and sometimes include behavioral literature. Behavior analysts have published studies and commentaries (Burgio et al., 2001; LeBlanc et al., 2006; Mozzoni, 2008) in these practice journals in attempts to influence other disciplines that already serve these consumer groups.

The literature outside of behavior analysis focuses primarily on the population characteristics and disease or injury process and epidemiology rather than on behavioral intervention. A search using the MedlinePlus database might identify useful publications for this purpose (<http://www.nlm.nih.gov/medlineplus/healthtopics.html>). For example, the most recent issue of *Brain Injury* focused on the prevalence of post-concussion syndrome, procedures for tracking recovery following sport-related concussion, and the effect of TBI on working memory. The issue included a few articles on pharmacological treatments, but no studies examining psychosocial interventions of any type. This type of information about the new target population benefits a behavior analyst interested in developing a shared knowledge base to facilitate communication with other disciplines who serve the population. The journals publish a few behavioral treatment articles, which can be located through a careful review of the table of contents or an electronic search of the journal's website using treatment relevant terms (e.g.,

"behavioral treatment," "behavior therapy," "behavioral management") in conjunction with the specific response treated (e.g., "pica," "aggression," "stereotypy"). Remove "behavior" from the search terms to identify studies on the effectiveness of relevant nonbehavioral treatments. These studies will likely employ group designs and statistical analyses. It may be helpful for a behavior analyst to consult texts on research methods (e.g., Kazdin, 2003) to aide in interpreting group designs and their internal validity as well as texts describing statistical analyses (e.g., Kirk, 1999) to find descriptions of the unfamiliar statistics including underlying assumptions, examples, and information on interpreting results.

*Contact relevant professional groups.* Another way that a behavior analyst can increase familiarity and competence with a new population is through membership in national and international groups for specific populations. Just as professionals with a new interest in behavior analysis should join organizations like ABAI, APBA, or division 25 of the APA, behavior analysts branching into a new area should join similar organizations and divisions of APA (e.g., 20-Adult Development and Aging; 22-Rehabilitation Psychology). Examples of organizations in the area of aging include the Alzheimer's Association of America® (AAA), the American Society on Aging (ASA), and the Gerontological Society of America (GSA). In the area of brain injury, individuals might join the BIAA, the American Congress of Rehabilitation Medicine (ACRM), and the North American Brain Injury Society (NABIS). Membership in these organizations puts a clinician in contact with mailing lists, journals, research topics valued by the field, funding opportunities, and networking opportunities.

National and international conferences and conventions can provide valuable professional development opportunities. At behavior analytic events, panel discussions (e.g., Pace, 2011) and symposia (e.g., Allen, 2011; Baker, 2011) on these topics can provide a start on developing a pertinent knowledge base. More specialized training and networking opportunities exist at events held by organizations specific to your new target subfield. A behavior analyst interested in providing services for elders might attend the joint conference sponsored by the ASA and the National Council on Aging (NCOA) that is geared toward practitioners. The GSA also has a national conference each year for researchers and practitioners. A behavior analyst interested in providing services for individuals with TBI might attend the NABIS annual conference dedicated to practitioner and legal topics or the ACRM annual conference dedicated to research.

Behavior analysts could also present at these nonbehavioral conferences as a means to illustrate the power of behavior analysis and to increase the interest of other disciplines in partnering on research or clinical services. Certain predictable questions or issues with terminology, design, and data analysis are likely to arise with a nonbehavioral audience. When presenting single subject research in these venues, briefly explain single subject design logic including true experimental manipulation and

Table 2. Increase Professional Competence with a New Population

General Strategies	Specific Strategies
Contact the literature	<p>Find the existing behavior-analytic literature</p> <ul style="list-style-type: none"> <li>• Access the JABA search engine (<a href="http://seab.envmed.rochester.edu/jaba/">http://seab.envmed.rochester.edu/jaba/</a>)</li> <li>• Use database search engines like PsycINFO, ERIC EBSCO Host, PubMed, MedlinePlus, Google scholar™</li> <li>• If relevant articles are located in a special issue or handbook, find that resource</li> <li>• Identify if your practice organizations have literature review resources</li> </ul> <p>Search outside of the behavior-analytic literature</p> <ul style="list-style-type: none"> <li>• Use national organization resource websites to search for handbooks, manuals, or guides</li> <li>• Subscribe to practice journals for the target group to access behavioral studies and commentaries</li> </ul>
Contact relevant professional groups	<p>Become a member and participate in national and international organizations that serve the target group</p> <p>Attend conferences by organizations specific to the target group for workshops and training opportunities</p>
Pursue retraining and supervision	<p>Identify a professional mentor in the target area who could provide training or experience opportunities</p> <ul style="list-style-type: none"> <li>• Contact the leadership of an ABAI special interest group (SIG)</li> <li>• Attend a business meeting of an ABAI SIG</li> <li>• Attend workshops (e.g., at ABAI and regional conferences) that are available</li> <li>• Search journal and handbook publications for common authors</li> </ul> <p>Contact the professional mentor to help identify a training opportunity or create a new training partnership</p> <ul style="list-style-type: none"> <li>• Arrange a post-graduate retraining experience at a specialized service agency</li> <li>• Arrange ongoing remote supervision and mentoring from a BCBA with experience in the area</li> </ul>
Identify professional credentials	<p>Determine if credentials outside of behavior analysis are necessary for funding or additional face validity</p> <p>Use search engines on a national organization's website to locate information</p>

replication (Kazdin, 2003), the criteria for evaluating the quality of single subject designs (Horner et al., 2005), and the types of questions best answered using single subject design. Martella, Nelson, and March-Martella (1999) provide an illustrative and useful table highlighting similarities and differences in single subject and group design. In addition, consider displaying data using alternatives to a line graph (e.g., bar graph with mean) that would be more familiar to a nonbehavioral audience. When questions about behavioral research do arise, respond politely and professionally to the opportunity to educate the audience and use effective communication skills to represent the field in the best possible light.

*Pursue retraining and supervision.* If possible, behavior analysts who expand their scope of practice should pursue supervised experience under the guidance of a behavior analyst that already specializes in serving the new target population. Although the numbers of behavioral gerontologists and behavioral brain injury specialists are small, these professionals are typically highly motivated to recruit new behavior analysts to their field. Identify these leaders in the field through an ABAI special interest group (SIG), a workshop offering, or based on their professional publications in journals and handbooks. Onsite supervision and employment could be obtained at a specialized service agency in the area of TBI (e.g., Timber Ridge Neuro-restorative Center in Arkansas, Learning Services Neurobehavioral Institute of Colorado, Lakeview NeuroRehabilitation Center in New Hampshire) or a university-based program in the area of behavioral gerontology (e.g., University of Colorado—Colorado Springs, Johns Hopkins University School of Medicine). Alternatively, remote supervision and mentoring from a BCBA who has expertise with the new population could prove quite valuable.

*Identify professional credentials.* A behavior analyst should determine whether there is an established professional credential for service providers of the new target population. Use the search engine located on a national organization's website (e.g., GSA, BIAA) to find credential information using key words such as "certification," "certificate programs," or "credential." Many accredited colleges and universities offer certificate programs in gerontology for students enrolled in graduate degree-granting programs or for nondegree seeking students with a bachelor's degree (e.g., a BCaBA). The requirements of gerontology certificate programs are often based on the recommendations of the Association for Gerontology in Higher Education, the educational unit of the GSA. In the area of brain injury, the Academy of Certified Brain Injury Specialists (ACBIS) offers professionals from multiple disciplines a voluntary national certification program that is based on a comprehensive training manual. While certification is not always necessary for employment or billing, the credential provides evidence of your commitment, training, and experience to potential employers or consumers and the training programs provide a structured means for making contact with the literature in the new area.

## Task 2: Identify and Manage Employment Opportunities

The strategies described above for Task 1 should be well underway prior to attempting to establish direct employment because these strategies will directly facilitate success in Task 2. The many disciplines that already serve these consumer groups (e.g., nursing, psychiatry, physical therapy) are as devoted and passionate to their cause as many young behavior analysts are about autism and early intervention services. Behavior analysts must convince existing service providers and funding agencies of the value of behavioral services without posing a threat to established service providers and while conveying a shared passion for serving this consumer group (Bailey & Burch, 2010). Without the knowledge and experiences acquired in pursuit of Task 1, a behavior analyst could easily appear naively overconfident of their skills or mercenary in their attempts to provide a service to novel consumers.

Success in identifying and creating new employment opportunities depends heavily on professionalism. The strategies described for Task 2 require professional image management skills and creativity and flexibility in procuring the actual job opportunities. Bailey and Burch (2010) provide an excellent guide for developing and using several professional skills that will be critical for your success. Brief summaries are provided below for a few of the most important skills.

*Develop effective communication skills.* Devote substantial time and energy to developing the ability to communicate effectively with professionals from different disciplines (Bailey & Burch, 2010). Continue to maintain technical precision in discussions with other behavior analysts, but develop a repertoire of colloquial descriptions that translate behavioral processes and procedures into everyday language for interdisciplinary team meetings (Friman, 2010b, p. 28). As an example, an intervention plan for a consumer with a TBI might involve contingent restoration of the environment to a former state of repair some amount of time after a bout of property destruction has occurred. A behavior analyst could even program positive reinforcement for engaging in this restitution. The terms punishment or restitution-based overcorrection might be accurate and reasonable to use with other behavior analysts, but a description that focuses on opportunities for responsibility will probably be more effective with professionals from other disciplines.

Bailey and Burch (2010) also suggest developing a short, succinct description of behavior analysis that can be provided in 90 seconds or less and that does not use technical jargon. Practice using these descriptions on friends and colleagues who are not behavior analysts and ask if the terms and phrases seemed understandable and approachable rather than unfamiliar or stiff. However, simply avoiding behavioral jargon is not enough; behavior analysts must also learn the technical terms used within the interdisciplinary community or risk undermining their own professional credibility. For example, in the area

Table 3. Identify and Manage Employment Opportunities

General Strategies	Specific Strategies
Develop effective communication skills	<p>Develop colloquial descriptions for behavioral processes and procedures</p> <p>Develop a succinct layperson description for behavior analysis (i.e., what it is and what you do)</p> <p>Master important terminology specific to the new population or clinical problem</p>
Increase your professional profile	<p>Engage in positive activism and public service</p> <ul style="list-style-type: none"> <li>• Become a member and participate in local and national organizations that serve the target group</li> <li>• Contact information distribution sources (e.g., local Area Agencies on Aging, BIAA)</li> <li>• Volunteer for human rights boards and advisory boards for agencies</li> <li>• Become involved in advocacy organizations</li> </ul> <p>Follow Bailey and Burch (2010) recommendations for influencing others in organizations</p> <ul style="list-style-type: none"> <li>• Make sure your joining efforts are in areas likely to prove influential</li> <li>• Manage your social impressions on others</li> <li>• Be efficient and effective as you volunteer for tasks</li> </ul>
Determine employment options	<p>Identify and evaluate your personal constraints (e.g., location, flexibility in hours, credentials) against existing employment options and funding streams</p> <ul style="list-style-type: none"> <li>• Consider direct employment with a provider</li> <li>• Consider consultation to provider agencies, state department, or families</li> <li>• Evaluate whether credentials are required for billing in your state</li> </ul> <p>Create new opportunities for services as described in LeBlanc (2010)</p>
Locate funding sources	Partner with local and state information distribution resources
Market the power of behavior analysis	<p>Teach existing providers about behavior analysis</p> <ul style="list-style-type: none"> <li>• Minimize the coverage of science and data at the outset</li> <li>• Focus on areas of impact that are likely of concern to providers (e.g., problem behavior)</li> </ul>

of brain injury, it would be a mistake to use the terms acquired brain injury and TBI synonymously because it would suggest lack of awareness that TBI is subsumed in the more comprehensive category of acquired brain injury and that different prognoses and clinical concerns are often evident depending on the type of injury. Similarly, in the area of aging, it would be a mistake to use the terms dementia and Alzheimer's disease synonymously, as Alzheimer's disease is only one of the many causes of the deficit cluster that we refer to as dementia. Develop the right stimulus control for these two communication repertoires (i.e., technical, colloquial) by frequently interacting with the two target audiences and increasing your interactions with professionals in the new area and seeking additional training opportunities as indicated in Task 1.

*Increase your professional profile.* As a new potential provider of services, behavior analysts will need to become a publicly active and productive advocate for the new target population through positive activism, volunteerism, and public service. Join local and national awareness and advocacy groups and participant in awareness and fundraising events. Such events are often coordinated by local and state agencies that serve as information distribution sources. Examples of information distribution sources for aging and brain injury are the local Area Agencies on Aging (AAA) and the BIAA, respectively. These types of events are usually an excellent place to network with providers and influential individuals at the state level. A behavior analyst may also need to work with information distribution sources that are active within local and state government to support and create public policy to promote services and funding options. By demonstrating the need at a local level and working with agencies and advocacy groups, behavior analysts can help to promote policy changes to support behavior analytic services. Next, consider serving on human rights boards, governing boards, and advisory boards for provider agencies. These positions are usually unpaid and participation in them provides public commitment to quality services beyond any personal financial benefit. Participation in these volunteer regulatory activities also provides exposure to local and state funding mechanisms, provider agencies, and potential avenues for employment.

Bailey and Burch (2010) suggest several strategies for maximizing success in efforts to become involved in a new organization or consumer advocacy community. First, identify a leader within an organization (e.g., a local advocacy organization) that can facilitate productive and influential involvement in new volunteer activities. Second, establish yourself as likable by avoiding expressions of strong or controversial opinions and asking for nothing within the first several months of your involvement. Third, demonstrate credibility and usefulness by volunteering for tasks and completing them to high standards of excellence. Members of the provider and advocacy community will be more likely to refer business opportunities to a pleasant and collaborative new provider who has demonstrated commitment to the population through service with local entities.

*Determine employment options.* The decision to pursue direct employment or consultant-based employment should be informed by existing opportunities and personal constraints. Consider the existing service providers and state infrastructure for contracting and funding in your target geographic area. Direct employment for an existing provider agency may be an option in certain regions of the country. In the area of brain injury, direct employment is an option if the behavior analyst lives in a region that has a neurorehabilitation center (e.g., Arkansas, California, Colorado, Florida, Illinois, Iowa, Kentucky, Massachusetts, Michigan, New Hampshire, Oklahoma, Pennsylvania, Texas, Wisconsin, Virginia) or if other provider options are already in place. The state or regional head injury foundation is a great place to identify these providers. In most direct employment options, the behavior analyst will likely be tasked with integrating themselves into a system that is based on a medical model. Thus, this option requires comfort with being the sole behavior analyst in an organization and creativity in reforming existing systems to facilitate data-based decision making and implementation of strategies to prevent problem behavior.

However, direct employment will be improbable for behavior analysts with geographic constraints and no local neurorehabilitation center. Self-employment as a consultant is an alternative option. In the area of brain injury, consult to local rehabilitation providers who also provide services to people with other disabilities (e.g., individuals with intellectual disabilities). Such providers are often part of a larger state coordinated health system (e.g., a Department of Public Health or Department of Human Services) and can be found by searching the health system's website for a provider directory. In the area of aging, consult to various constituencies such as families, adult day centers, continuing care facilities, nursing homes, group homes, or rehabilitation providers. Effective consultation to companies may make the recipients of the consultation amenable to paying a portion of the behavior analyst's salary for regular work.

Practice credentials are important for establishing the validity of your experience to existing providers and may also be required under state regulations for billing and practice rights. For example, in Illinois, the Department of Human Services (DHS) determines the appropriate providers, services (e.g., assessment, training), and reimbursement for those services (e.g., base plus performance, level of funding, cooperative working rate agreements) for consumers with brain injuries. These regulations can be found in Illinois by going to the DHS website (<http://www.dhs.state.il.us>) and clicking on the "become a provider" link. Other states may be different. In Alabama, these same services are regulated by the Department of Public Health and are found under laws and regulations on the main webpage (<http://www.adph.org>). Conduct a search using Google with the target population (e.g., aging), the word "services," and the name of the state to find the appropriate regulatory system.

In some cases, an entrepreneurial behavior analyst can



create an opportunity where one did not previously exist. Existing behavior analytic service providers can do this by simply incorporating the new population into the existing infrastructure (e.g., community-based services for adults with intellectual disabilities might be extended to include adults with brain injuries or adults with dementia). Alternatively, LeBlanc (2010) provides a framework for how to work with an existing service provider to incorporate behavior analytic supports with grant support. LeBlanc (2010) collaborated with an existing day treatment program for adults with intellectual disabilities to obtain a Michigan Department of Community Health grant to incorporate intensive behavior analytic supports. The grant proposal focused on maintaining community-based services for individuals who otherwise would have been placed in nursing homes due to challenging problem behaviors and safety issues. Over time, the project became financially self-sufficient and continued to expand in capacity. Although this project occurred in conjunction with a university, the general methods could be adopted in nonacademic settings with some adjustments.

*Locate funding sources.* Another strategy for creating consultant-based work involves partnering with the local and state information distribution sources mentioned above. As an example from aging services, the coordinator of the local area agency on aging may be aware of existing funding and service options for the consultant and can inform potential consumers about a new service option or a new provider in the area. Many agencies have multidisciplinary teams develop behavioral programming without an awareness that some professionals have specific training in developing and providing those services. In most nursing home settings, interdisciplinary teams that do not include a behavior analyst make the majority of treatment decisions rather than a single person (Baker & LeBlanc, 2011). These teams are often led by medical professionals or occupational therapists and their treatment selections often involve medication and sensory integration. Administrators of nursing homes are often unaware that a behavior analyst has the appropriate background and training to provide expertise in designing behavior support plans. Effective consultation in this role might provide the opportunity to convince the organization of the need for a behavior analyst to coordinate behavioral programming, data collection and analysis, and staff training as a strategy for complying with federal mandates to minimizing problem behavior without excessive pharmacological sedation. Quality Behavioral Solutions (QBS; <http://www.qbscompanies.com>) provides a model of a behavioral consulting company that provides training and positive behavior support programming targeted to nursing homes (i.e., Geri-Care) as well as other potential consumer groups (e.g., schools). Prior advocacy efforts should lead to contact with influential people in pertinent information distribution sources who can facilitate an introduction to program administrators. It is likely that administrators have already established relationships to obtain funding and may even be able to assist with the process if they see the value of your services.

*Market the power of behavior analysis.* Contact with the relevant individuals, agencies, and information distribution sources can create the opportunity to use a number of marketing strategies to illustrate the power of behavior analysis. Families and professionals that could become consumers of behavior analytic supports are probably unfamiliar with behavior analysis and may be relatively unfamiliar with science in general. Introduce these individuals to behavior analysis and its potential to impact consumer's lives using appealing, understandable terms that convey values such as respect for individual rights. Consider conducting presentations or practical workshops at local or regional conferences or advocacy awareness events on topics that illustrate immediate benefit for the attendee (e.g., positive strategies to manage problem behavior during caregiving, low effort strategies for increasing engagement and quality of life). Though these presentations may not generate immediate income, they may prove to be a valuable tool for creating future consulting opportunities. When more detailed and technical presentations are required, use the strategies described above for presentations to nonbehavioral audiences to facilitate success in marketing the power of behavior analysis and the broad scope of potential application of behavioral principles.

## Summary and Conclusions

The pioneers who established our field over four decades ago looked toward a future where society would experience large-scale positive impacts of applied behavior analysis (Baer, Wolf & Risley, 1968). For many individuals with autism spectrum disorders and intellectual disabilities that impact has occurred and services are more universally available than ever before because of the growth in our workforce of qualified providers (Carr, 2011; Johnston, 2009; Reid, 1991). Behavior analytic researchers have documented the same powerful benefits of applied behavior analysis in addressing other socially important clinical concerns including drug addiction (Silverman, Roll, & Higgins, 2008), dementia (Baker et al., 2006; Trahan, Kahng, Fisher, & Hausman, 2011), and brain injury (Cowley et al., 1992; Slifer & Amari, 2009). However, consumers with these conditions and others are still underserved by behavior analysts.

Behavior analysts looking for a new challenge have a wonderful opportunity to create positive impact on the lives of ever-growing segments of our society. In addition to creating broader social impact, serving diverse consumer groups can increase one's flexibility to respond to changes in the funding and employment landscape. Such an opportunity requires careful preparation and planning to accomplish the two important tasks of developing competence and identifying and managing employment opportunities. The strategies described in this paper should prove useful in expanding one's capacity to serve new consumers with the powerful technology of applied behavior analysis.

## References

- Adkins, V. K., & Mathews, R. M. (1999). Behavioral gerontology: State of the science. *Journal of Clinical Gerontology*, *5*, 39–49.
- Allen, R. (2011, May). Chair, Behavior Analytic Interventions for Individuals with Brain Injury. Symposium at the 37th Annual convention of the Association for Behavior Analysis International. Denver, Colorado May 2011.
- Austin, J., & Carr, J. E. (Eds.). (2000). *Handbook of applied behavior analysis*. Oakland, CA: New Harbinger Publications.
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, *1*, 91–97.
- Bailey, J., & Burch, M. (2010). *25 essential skills & strategies for the professional behavior analyst*. New York: Routledge Taylor & Francis Group.
- Baker, J. C. (2011, May). Preference and Reinforcer Assessment in Older Adults with Dementia. Symposium conducted at the 37th annual Association for Behavior Analysis International convention in Denver, CO.
- Baker, J. C., Hanley, G. P., & Mathews, R. M. (2006). Staff-administered functional analysis and treatment of aggression by an elder with dementia. *Journal of Applied Behavior Analysis*, *39*, 469–474.
- Baker, J. C., & LeBlanc, L. A. (2010, March). Behavioral gerontology: Selected resources (bibliography published by the Association of Professional Behavior Analysts). Archived resource for Association of Professional Behavior Analysts members <http://www.apbhome.net/index.php/Bibliographies> section.
- Baker, J. C., & LeBlanc, L. A. (2011). Acceptability of interventions for aggressive behavior in long-term care settings: Comparing ratings and hierarchical selection. *Behavior Therapy*, *42*, 30–41.
- Baker, J. C., LeBlanc, L. A., Raetz, P. B., & Hilton, L. C. (2011). Assessment and treatment of hoarding in an individual with dementia. *Behavior Therapy*, *42*, 135–142.
- Bourgeois, M. S. (1990). Enhancing conversation skills in patients with Alzheimer's disease using a prosthetic memory aid. *Journal of Applied Behavior Analysis*, *23*, 29–42.
- Bourgeois, M. S., & Mason, L. A. (1996). Memory wallet intervention in an adult day-care setting. *Behavioral Interventions*, *11*, 3–18.
- Buchanan, J. A., & Fisher, J. E. (2002). Functional assessment and noncontingent reinforcement in the treatment of disruptive vocalization in elderly dementia patients. *Journal of Applied Behavior Analysis*, *35*, 99–103.
- Burgio, L. D., Allen-Burge, R., Roth, D. L., Bourgeois, M. S., Dijkstra, K., Gerstle, J., . . . Bankester, L. (2001). Come talk with me: Improving communication between nursing assistants and nursing home residents during care routines. *The Gerontologist*, *41*, 449–460.
- Carr, J. E. (2011, February). The Behavior Analyst Certification Board and Professional Developments in Behavior Analysis. Invited address conducted at the 29th Annual Western Regional Conference of the California Association for Behavior Analysis, Burlingame, CA.
- Carr, J. E., & Briggs, A. M. (2010). Strategies for making regular contact with the scholarly literature. *Behavior Analysis in Practice*, *3*, 13–18.
- Cattalani, R., Zettin, M., & Zoccolotti, P. (2010). Rehabilitation treatments for adults with behavioral and psychosocial disorders following acquired brain injury: A systematic review. *Neuropsychology Review*, *20*, 52–85.
- Conyers C., Doole A., Vause T., Harapiak S., Yu, D. C., & Martin, G. L. (2002). Predicting the relative efficacy of three presentation methods for assessing preferences of persons with developmental disabilities. *Journal of Applied Behavior Analysis*, *35*, 49–58.
- Cowley, B. J., Green, G., & Braunling-McMorrow, D. (1992). Using stimulus equivalence procedures to teach name-face matching to adults with brain injuries. *Journal of Applied Behavior Analysis*, *25*, 461–475.
- Dolezal, D. N., & Kurtz, P. F. (2010). Evaluation of combined-antecedent variables on functional analysis results and treatment of problem behaviors in a school setting. *Journal of Applied Behavior Analysis*, *43*, 309–314.
- Dwyer-Moore, K. J., & Dixon, M. R. (2007). Functional analysis and treatment of problem behavior of elderly adults in long-term care. *Journal of Applied Behavior Analysis*, *40*, 679–683.
- Eldevik, S., Hastings, R. P., Hughes, J. C., Jahr, E., Eikeseth, S., & Cross, S. (2009). Meta-analysis of early intensive behavioral intervention for children with autism. *Journal of Clinical Child and Adolescent Psychology*, *38*, 439–450.
- Fisher, W. W., Piazza, C. C., & Roane, H. S. (Eds.). (2011). *Handbook of applied behavior analysis*. New York: Guilford Press.
- Friman, P. C. (2010a). The President's Column. *Inside Behavior Analysis*, *2*, 6–9.
- Friman, P. C. (2010b). Come on in, the water is fine: Achieving mainstream relevance through integration with primary care. *The Behavior Analyst*, *33*, 19–36.
- Fyffe, C. E., Kahng, S., Fittro, E., & Russell, D. (2004). Functional analysis and treatment of inappropriate sexual behavior. *Journal of Applied Behavior Analysis*, *37*, 401–404.
- Higbee, T. S., Carr, J. E., & Harrison, C. D. (1999). The effects of pictorial versus tangible stimuli in stimulus-preference assessments. *Research in Developmental Disabilities*, *20*, 63–72.
- Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single subject research to identify evidence-based practice in special education. *Exceptional Children*, *71*, 165–179.
- Houlihan, D., & Buchanan, J. (Eds.). (2011). Geriatric behavior therapy: The challenges of a changing environment [Special issue]. *Behavior Therapy*, *42* (1).

- Jacobs, H. E. (2000). Behavioral contributions to brain-injury rehabilitation. In J. Austin, & J. E. Carr (Eds.), *Handbook of applied behavior analysis* (pp. 211–230). Oakland, CA: New Harbinger Publications.
- Johnston, J. (2009). APBA 2009 Professional employment survey results. (survey results published by the Association of Professional Behavior Analysts). Archived resource for Association of Professional Behavior Analysts members <http://www.apbathome.net/index.php> APBA Survey Results section.
- Kazdin, A. E. (2003). *Research Design in Clinical Psychology* (4th ed.). Boston: Allyn & Bacon.
- Kirk, R. E. (1999). *Statistics: An introduction (4th Ed.)*. Fort Worth, TX: Harcourt Brace College Publishers.
- Langlois J. A., Rutland-Brown, W., & Thomas, K. E. (2006). *Traumatic Brain Injury in the United States: Emergency Department Visits, Hospitalizations, and Deaths*. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.
- Lash, M. (Ed.). (2007). *The essential brain injury guide* (4th ed.). Vienna, VA: Brain Injury Association of America.
- LeBlanc, L. A. (2010). Integrating behavioral psychology services into adult day programming for individuals with dementia. *Behavior Modification, 34*, 443–458.
- LeBlanc, L. A., Cherup, S. M., Feliciano, L., & Sidener, T. M. (2006). Using choice making opportunities to increase activity engagement in individuals with dementia. *American Journal of Alzheimer's Disease and Other Dementias, 21*, 318–325.
- LeBlanc, L. A., Raetz, P. B., Baker, J. C., Strobel, M. J., & Feeney, B. J. (2008). Assessing preference in elders with dementia using multimedia and verbal pleasant events schedules. *Behavioral Interventions, 23*, 213–225.
- LeBlanc, L. A., Raetz, P. B., & Feliciano, L. (2011). Behavioral gerontology. In W. W. Fisher, C. C. Piazza, & H. S. Roane (Eds.) *Handbook of applied behavior analysis* (pp. 472–486). New York: Guilford Press.
- Malott, M. E. (2010). Everything's bigger in Texas, including ABAI's 2010 annual convention. *Inside Behavior Analysis, 2*, 6–9.
- Martella, R. C., Nelson, R., & Marchand-Martela, N. E. (1999). *Research Methods*. Boston, MA: Allyn & Bacon.
- McCurry, S. M., & Drossel, C. (2011). *Treating dementia in context: A step-by-step guide to working with individuals and families*. Washington, DC: American Psychological Association.
- Mozzoni, M. P. (Ed.). (2000). Brain injury [Special issue]. *Behavioral Interventions, 15*(3).
- Mozzoni, M. P. (Ed.). (2005). Traumatic brain injury [Special issue]. *Behavioral Interventions, 20*(1).
- Mozzoni, M. P. (2008). Applied behavior analysis evaluation strategies and neurorehabilitation. *Brain Injury Professional, 5*, 29–31.
- Olshansky, S. J., Goldman, D. P., Zheng, Y., & Rowe, J. W. (2009). Aging in America in the twenty-first century: Demographic forecasts from the MacArthur Foundation Research Network on an aging society. *The Milbank Quarterly, 87*, 842–862.
- Pace, G. (2011, April). Chair, Growth Areas in Applied Behavior Analysis. Panel discussion conducted at the first annual Association for Professional Behavior Analysts convention in Boston, MA.
- Reichow, B. & Woolery, M. (2009). Comprehensive synthesis of early intensive behavioral interventions for young children with autism based on the UCLA Young Autism Project model. *Journal of Autism and Developmental Disorders, 39*, 23–41.
- Reid, D. H. (1991). Technological behavior analysis and societal impact: A human services perspective. *Journal of Applied Behavior Analysis, 24*, 437–439.
- Ryan's Law, S.C. Code Ann. § 38-71–280 (Supp. 2008).
- Sidman, M. (1994). From coma to equivalence. In M. Sidman, *Equivalence relations and behavior: A research story* (pp. 266–273). Boston, MA: Authors Cooperative.
- Silverman, K., Roll, J. M., & Higgins, S. T. (2008). Introduction to the special issue on the behavior analysis and treatment of drug addiction. *Journal of Applied Behavior Analysis, 41*, 471–480.
- Slifer, K. J., & Amari, A. (2009). Behavior management for children and adolescents with acquired brain injury. *Developmental Disabilities Research Reviews, 15*, 144–151.
- Stewart, I., & Alderman, N. (2010). Active versus passive management of post-acquired brain injury challenging behavior: A case study analysis of multiple operant procedures in the treatment of challenging behavior maintained by negative reinforcement. *Brain Injury, 24*, 1616–1627.
- Tanielian, T., & Jaycox, L. H. (2008). *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery*. Santa Monica, CA: RAND Corp.
- Trahan, M. A., Kahng, S., Fisher, A. B., & Hausman, N. L. (2011). Behavior-analytic research on dementia in older adults. *Journal of Applied Behavior Analysis, 44*, 687–691.
- Travis, R., & Sturmey, P. (2010). Functional analysis and treatment of the delusional statements of a man with multiple disabilities: A four-year follow-up. *Journal of Applied Behavior Analysis, 43*, 745–749.
- UPDATE: Board of psychologists withdraws autism rule change. (2011, September 28). *WSAZ News Channel*. Retrieved from [http://www.wsaz.com/news/headlines/Emergency\\_Rule\\_Cuts\\_Off\\_Autism\\_Treatment\\_in\\_WVa\\_\\_130608358.html](http://www.wsaz.com/news/headlines/Emergency_Rule_Cuts_Off_Autism_Treatment_in_WVa__130608358.html)
- U.S. Census Bureau. (2010). *Table 2. Annual Estimates of the Resident Population by Sex and Selected Age Groups for the United States: April 1, 2000 to July 1, 2009 (NC-EST2009-02)*. Retrieved from U.S. Census Bureau website: <http://www.census.gov/popest/national/asrh/NC-EST2009/NC-EST2009-02.xls>

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